

21570

Cassette auto radio 22DC 570/00

22DC 670/00

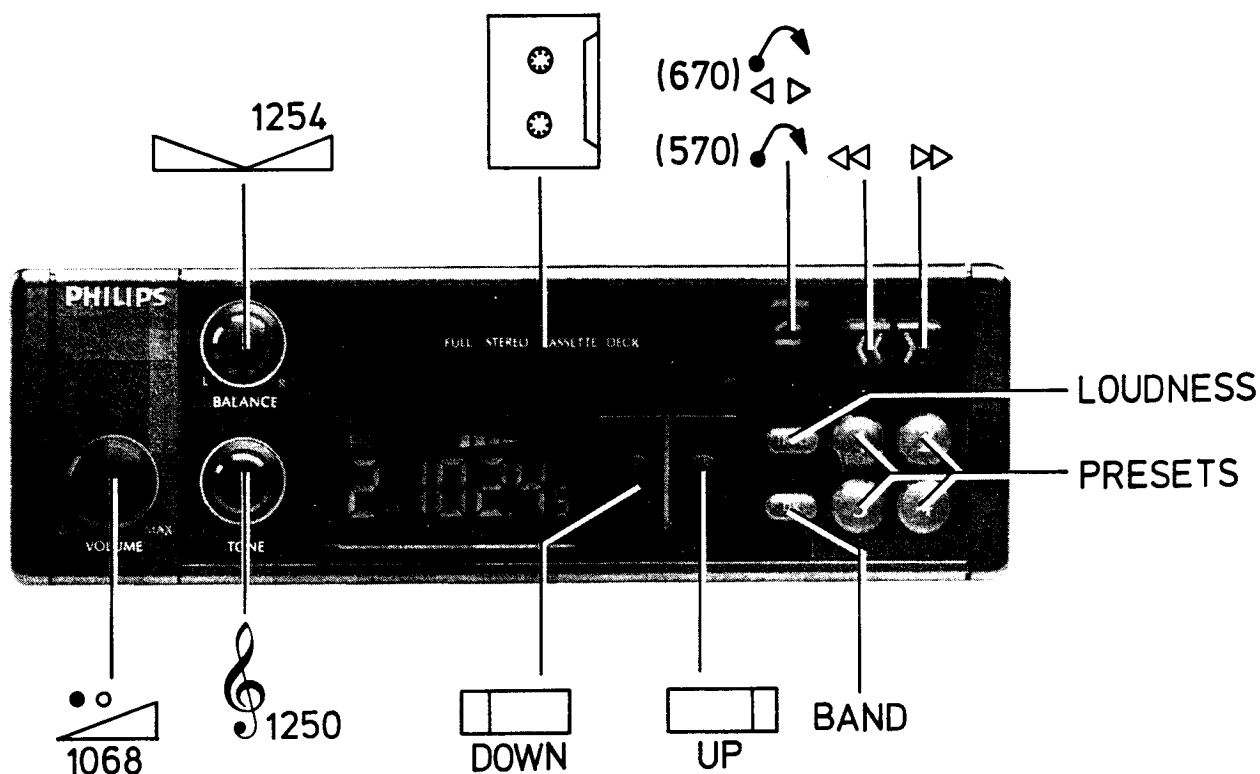
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MAURITRON TECHNICAL SERVICES  
8 Cherry Tree Rd, Chinnor  
Oxon OX9 4QY  
Tel:- 01844-351694 Fax:- 01844-352554  
Email:- enquiries@mauritron.co.uk

+ R570  
R670

12171

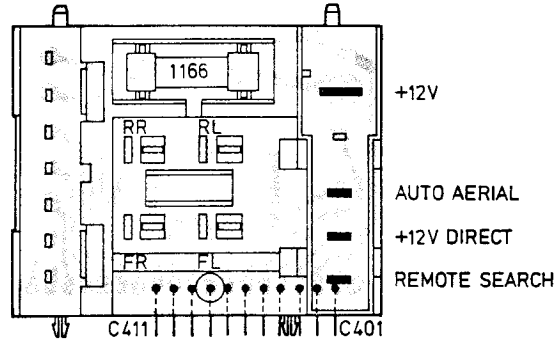
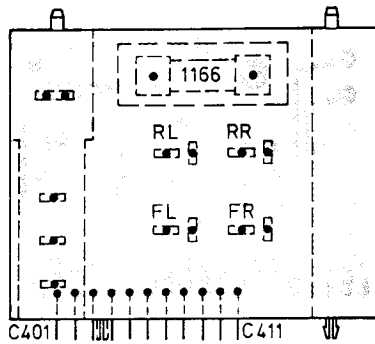
# Service Manual

12 V 

43 029 A12

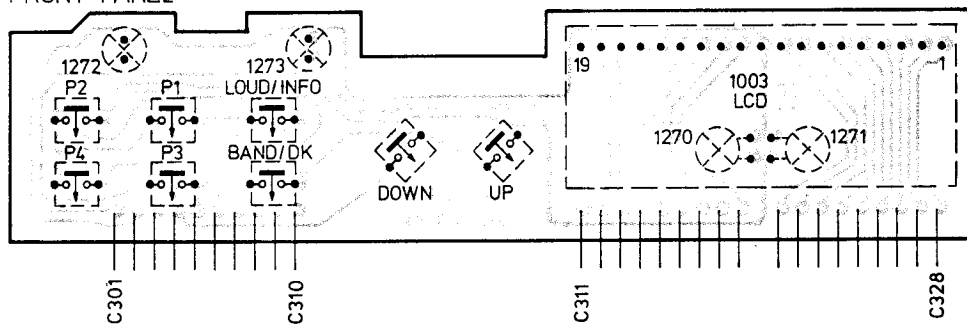
# 1053 CONNECTING BLOCK P.B. ASSY

- C401 = REMOTE SEARCH
- C402 = +12V SWITCHED
- C403 = +12V DIRECT
- C404 = N.C.
- C405 = AUTO.AERIAL
- C406 = +FL
- C407 = -L
- C408 = +RL
- C409 = -R
- C410 = +FR
- C411 = +RR



42 829 B12

## FRONT PANEL



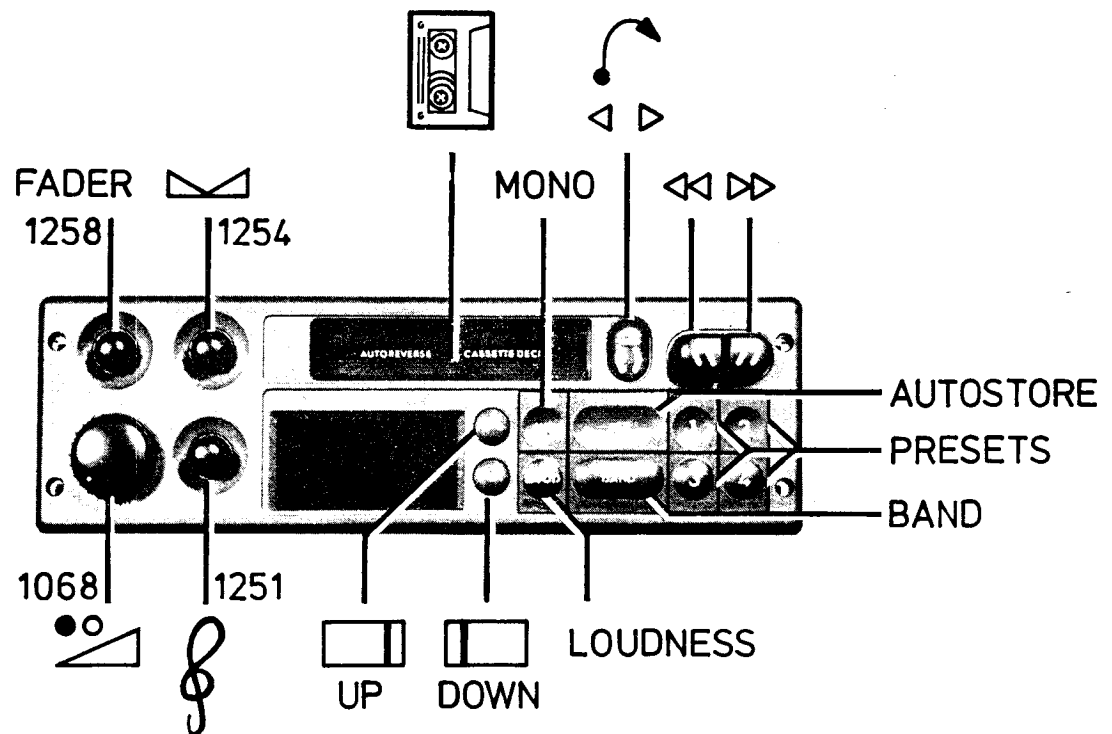
43 026 B12

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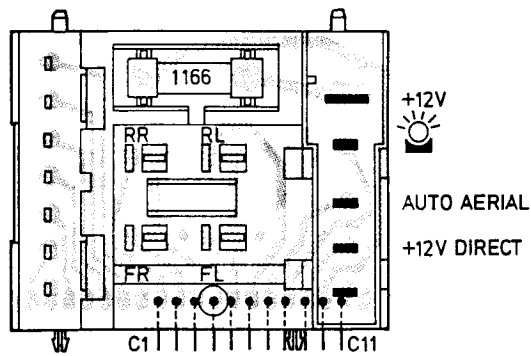
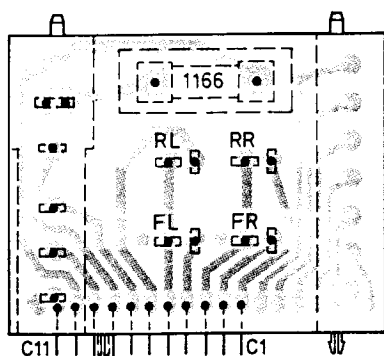
12 V 



44 254 A11

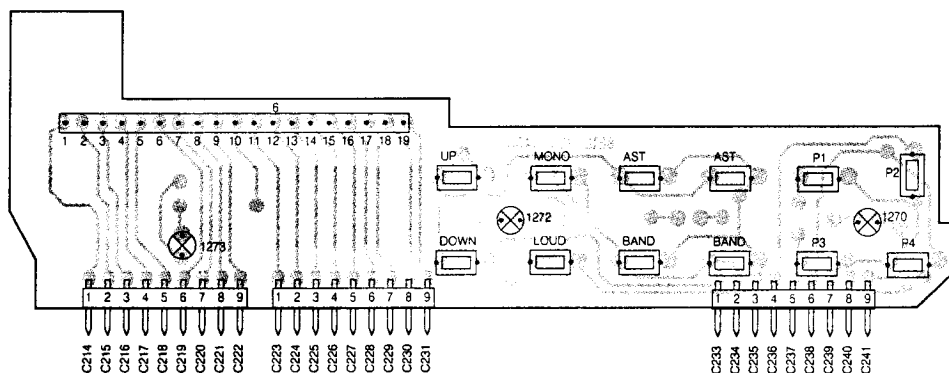
# 1053 CONNECTING BLOCK P.B. ASSY

C11 = N.C.  
 C10 = +12V SWITCHED  
 C9 = +12V DIRECT  
 C8 = EXT. ILL.  
 C7 = AUTO.AERIAL  
 C4 = +FL  
 C5 = -L  
 C6 = +RL  
 C3 = -R  
 C2 = +FR  
 C1 = +RR










44 215 B11

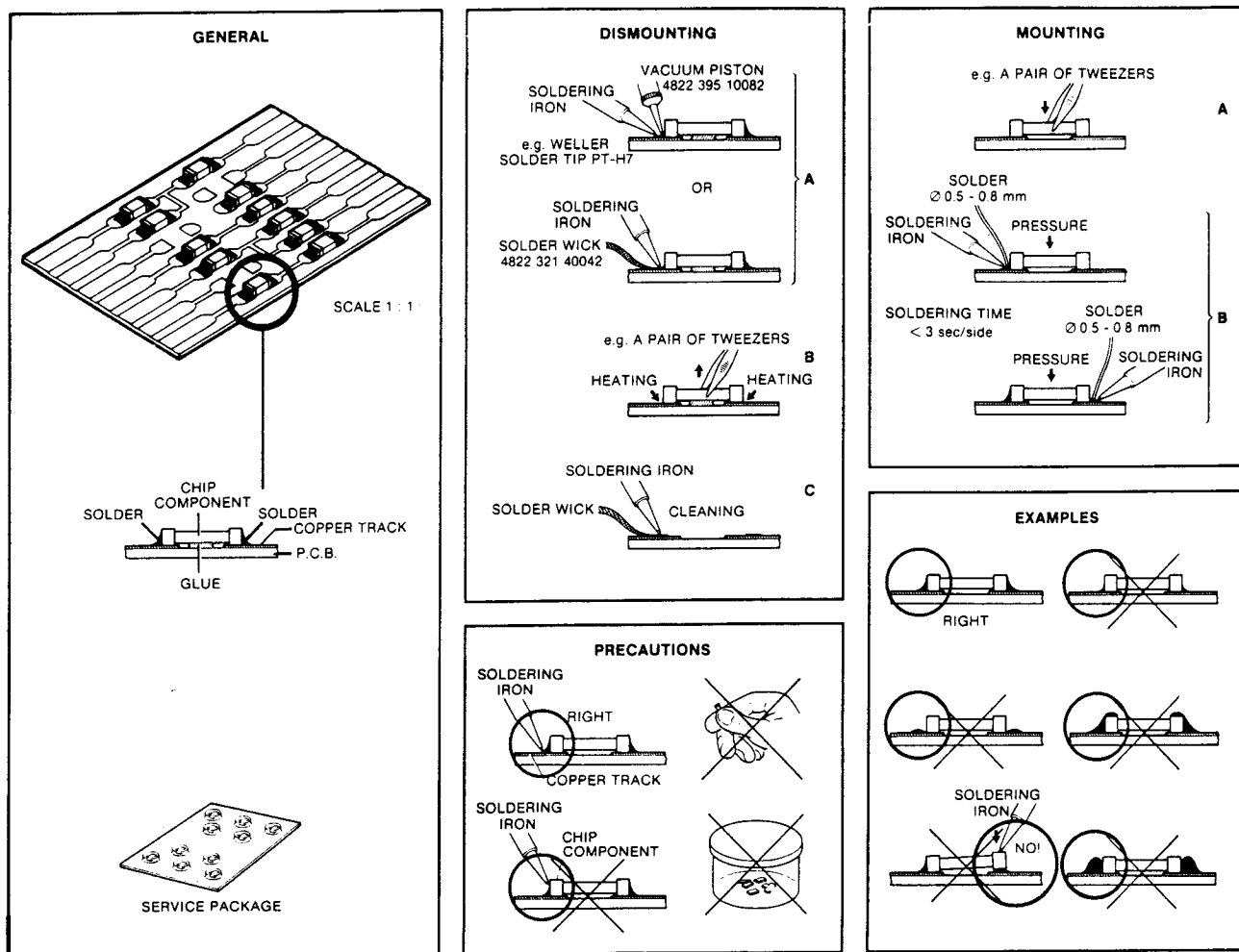
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PCB.01231  
 T27-838

- MISCELLANEOUS -									
1055	IAC-Thifi	4822 214 51676			2166	100nF	20%	50V	4822 122 33104
1056	SDK-Thifi	4822 214 51674			2168	100nF	20%	50V	4822 122 33104
1057	STEREO DEC. Thifi	4822 214 51677			2172	100nF	20%	50V	4822 122 33104
1059	Cer.Filter 10.7 MHz	4822 242 71889			2178	2200µF		10V	4822 124 41452
1060	Cer.Filter 10.7 MHz	4822 242 71889			2180	2200µF		10V	4822 124 41452
1061	Crystal 4 MHz	4822 242 71881			2186	100nF	20%	50V	4822 122 33104
1062	Crystal 4 MHz	4822 242 71882			2187	100nF	20%	50V	4822 122 33104
1064	Cer.Filter 10.7 MHz	4822 242 71883			2192	33 pF		50V	4822 122 33215
1065	Cer.Filter 10.7 MHz	4822 242 71883			2193	33 pF		50V	4822 122 33215
1068	Potm.Volume 2X50kΩ	4822 102 40082			2196	2200µF		16V	4822 124 22412
1166	Fuse 2.5A(T)	4822 253 30026			2201	100pF	20%	50V	4822 122 33104
1250/1251	Potm.Tone 2X100kΩ	4822 102 30462			2204	2.2µF		40V	4822 124 20706
1254	Potm.Balance 100kΩ	4822 100 20663			2206	4.7nF		50V	4822 122 33217
1270÷1274	Lamp 14V-40mA	4822 134 40855			2208	4.7nF		50V	4822 122 33217
									
2050	100nF	20%	50V	4822 122 33104	3050	1k			4822 111 91516
2051	47 nF			4822 122 33211	3051	330Ω			4822 111 91501
2055	100nF	20%	50V	4822 122 33104	3052	10E			4822 111 91519
2056	10 nF			4822 122 31728	3053	10k Trimpotmeter			4822 100 20166
2057	47 nF			4822 122 33211	3054	2k7			4822 111 91525
2061	2.2µF		40V	4822 124 20706	3055	10k Trimpotmeter			4822 100 20166
2062	150pF			4822 122 33181	3056	4k7			4822 111 91532
2063	270pF			4822 122 33216	3057	750E			4822 111 91505
2064	220nF	20%	50V	4822 122 32916	3060	10E			4822 111 91519
2068	220nF	20%	50V	4822 122 32916	3061	3k3			4822 111 91526
2070	390pF	20%	50V	4822 122 33172	3064	39k			4822 111 91528
2074	220nF	20%	50V	4822 122 32916	3065	2k2			4822 111 91522
2076	220nF	20%	50V	4822 122 32916	3067	620k			4822 111 91503
2083	27 pF			4822 122 33214	3068	10E			4822 111 91519
2088	10 pF			4822 122 33212	3069	3k9			4822 111 91527
2089	33 pF	20%	50V	4822 122 33215	3070	8k2			4822 111 91507
2090	270pF	20%	50V	4822 122 33216	3072	22k			4822 111 91523
2091	270pF	20%	50V	4822 122 33216	3073	15k			4822 111 91498
2092	10 nF	20%	50V	4822 122 33177	3074	1k			4822 111 91516
2097	220nF	20%	50V	4822 122 32916	3075	10k			4822 111 91517
2099	150pF		50V	4822 122 33222	3076	2k7			4822 111 91525
2106	100nF	20%	50V	4822 122 33104	3077	330E			4822 111 91501
2109	22 pF		50V	4822 122 33213	3079	39k			4822 111 91528
2110	100nF	20%	50V	4822 122 33104	3080	39k			4822 111 91528
2114	4.7nF		50V	4822 122 33217	3082	91E			4822 111 91508
2115	3.3nF		50V	4822 122 33219	3083	2k2			4822 111 91522
2118	2200µF		6.3V	4822 124 41453	3084	39k			4822 111 91528
2120	10 pF		50V	4822 122 33212	3086	560E			4822 111 91533
2121	10 pF		50V	4822 122 33212	3087	470E			4822 111 91531
2122	820pF		50V	4822 122 33218	3090	4k7			4822 111 91532
2123	820pF		50V	4822 122 33218	3091	220k			4822 111 91524
2125	820pF		50V	4822 122 33218	3095	1k			4822 111 91516
2126	820pF		50V	4822 122 33218	3096	1k			4822 111 91516
2132	2.7nF		50V	4822 122 33176	3099	22k			4822 111 91523
2133	2.7nF		50V	4822 122 33176	3100	220k			4822 111 91524
2134	220nF	20%	50V	4822 122 32916	3104	18k			4822 111 91521
2135	220nF	20%	50V	4822 122 32916	3105	18k			4822 111 91521
2136	100nF	20%	50V	4822 122 33104	3106	1k			4822 111 91516
2140	220µF		10V	4822 124 22409	3107	39k			4822 111 91528
2141	5.6nF		50V	4822 122 33221	3108	10k			4822 111 91517
2142	5.6nF		50V	4822 122 33221	3110	470E			4822 111 91531
2150	220nF	20%	50V	4822 122 32916	3111	470E			4822 111 91531
2151	220nF	20%	50V	4822 122 32916	3112	390k			4822 111 91529
2156	1.8nF		50V	4822 122 33144	3113	390k			4822 111 91529
2157	1.8nF		50V	4822 122 33144	3116	1M			4822 111 91509
2158	100nF		50V	4822 122 33209					
2162	820pF		50V	4822 122 33218					
2164	820pF		50V	4822 122 33218					








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1 pF	5%	4822 122 32479		4,7 E	5%	5322 111 90376		6,8 k	2%	4822 111 90544		
1,2 pF	5%	4822 122 33013		5,1 E	5%	4822 111 90393		7,5 k	2%	4822 111 90276		
1,5 pF	5%	4822 122 31792		5,6 E	5%	4822 111 90394		8,2 k	2%	5322 111 90118		
1,8 pF	5%	4822 122 32087		6,2 E	5%	4822 111 90395		9,1 k	2%	4822 111 90373		
2,2 pF	5%	4822 122 32425		6,8 E	5%	4822 111 90254		10 k	2%	4822 111 90249		
3,3 pF	5%	4822 122 32079		7,5 E	5%	4822 111 90396		11 k	2%	4822 111 90337		
3,9 pF	5%	4822 122 32081		8,2 E	5%	4822 111 90397		12 k	2%	4822 111 90253		
4,7 pF	5%	4822 122 32082		9,1 E	5%	4822 111 90398		13 k	2%	4822 111 90509		
5,6 pF	5%	4822 122 32506		10 E	2%	5322 111 90095		15 k	2%	4822 111 90196		
6,8 pF	5%	4822 122 32507		11 E	2%	4822 111 90338		16 k	2%	4822 111 90346		
8,2 pF	5%	4822 122 32083		12 E	2%	4822 111 90341		18 k	2%	4822 111 90238		
10 pF	5%	4822 122 31971		13 E	2%	4822 111 90343		20 k	2%	4822 111 90349		
12 pF	5%	4822 122 32139		15 E	2%	4822 111 90344		22 k	2%	4822 111 90251		
15 pF	5%	4822 122 32504		16 E	2%	4822 111 90347		24 k	2%	4822 111 90512		
18 pF	5%	4822 122 31769		18 E	2%	5322 111 90139		27 k	2%	4822 111 90542		
22 pF	10%	4822 122 31837		20 E	2%	4822 111 90352		30 k	2%	4822 111 90216		
27 pF	5%	4822 122 31966		22 E	2%	4822 111 90186		33 k	2%	5322 111 90267		
33 pF	5%	4822 122 31756		24 E	2%	4822 111 90355		36 k	2%	4822 111 90514		
39 pF	5%	4822 122 31972		27 E	2%	5322 111 90105		39 k	2%	5322 111 90108		
47 pF	5%	4822 122 31772		30 E	2%	4822 111 90356		43 k	2%	4822 111 90363		
56 pF	5%	4822 122 31774		33 E	2%	4822 111 90357		47 k	2%	4822 111 90543		
68 pF	5%	4822 122 31961		36 E	2%	4822 111 90359		51 k	2%	5322 111 90274		
82 pF	10%	4822 122 31839		39 E	2%	4822 111 90361		56 k	2%	4822 111 90573		
100 pF	5%	4822 122 31765		43 E	2%	5322 116 90125		62 k	2%	5322 111 90275		
120 pF	5%	4822 122 31766		47 E	2%	4822 111 90217		68 k	2%	4822 111 90202		
150 pF	5%	4822 122 31767		51 E	2%	4822 111 90365		75 k	2%	4822 111 90574		
180 pF	2%	4822 122 31794		56 E	2%	4822 111 90239		82 k	2%	4822 111 90575		
220 pF	5%	4822 122 31965		62 E	2%	4822 111 90367		91 k	2%	5322 111 90277		
270 pF	5%	4822 122 32142		68 E	2%	4822 111 90203		100 k	2%	4822 111 90214		
330 pF	10%	4822 122 31642		75 E	2%	4822 111 90371		110 k	2%	5322 111 90269		
390 pF	5%	4822 122 31771		82 E	2%	4822 111 90124		120 k	2%	4822 111 90568		
470 pF	5%	4822 122 31727		91 E	2%	4822 111 90375		130 k	2%	4822 111 90511		
560 pF	5%	4822 122 31773		100 E	2%	5322 111 90091		150 k	2%	5322 111 90099		
680 pF	5%	4822 122 31775		110 E	2%	4822 111 90335		160 k	2%	5322 111 90264		
820 pF	5%	4822 122 31974		120 E	2%	4822 111 90339		180 k	2%	4822 111 90565		
1 nF	10%	5322 122 31647		130 E	2%	4822 111 90164		200 k	2%	4822 111 90351		
1,2 nF	5%	4822 122 31807		150 E	2%	5322 111 90098		220 k	2%	4822 111 90197		
1,5 nF	10%	4822 122 31781		160 E	2%	4822 111 90345		240 k	2%	4822 111 90215		
1,8 nF	10%	4822 122 32153		180 E	2%	5322 111 90242		270 k	2%	4822 111 90302		
2,2 nF	10%	4822 122 31644		200 E	2%	4822 111 90348		300 k	2%	5322 111 90266		
2,7 nF	10%	4822 122 31783		220 E	2%	4822 111 90178		330 k	2%	4822 111 90513		
3,3 nF	10%	4822 122 31969		240 E	2%	4822 111 90353		360 k	2%	4822 111 90515		
3,9 nF	10%	4822 122 32566		270 E	2%	4822 111 90154		390 k	2%	4822 111 90182		
4,7 nF	10%	4822 122 31784		300 E	2%	4822 111 90156		430 k	2%	4822 111 90168		
5,6 nF	10%	4822 122 31916		330 E	2%	5322 111 90106		470 k	2%	4822 111 90161		
6,8 nF	10%	4822 122 31976		360 E	1%	4822 111 90288		510 k	2%	4822 111 90364		
10 nF	10%	4822 122 31728		360 E	2%	4822 111 90358		560 k	2%	4822 111 90169		
12 nF	10%	5322 122 31648		390 E	2%	5322 111 90138		620 k	2%	4822 111 90213		
15 nF	10%	4822 122 31782		430 E	2%	4822 111 90362		680 k	2%	4822 111 90368		
18 nF	10%	4822 122 31759		470 E	2%	5322 111 90109		750 k	2%	4822 111 90369		
22 nF	10%	4822 122 31797		510 E	2%	4822 111 90245		820 k	2%	4822 111 90205		
27 nF	10%	4822 122 32541		560 E	2%	5322 111 90113		910 k	2%	4822 111 90374		
33 nF	10%	4822 122 31981		620 E	2%	4822 111 90366		1 M	2%	4822 111 90252		
47 nF	10%	4822 122 32542		680 E	2%	4822 111 90162		1,1 M	5%	4822 111 90408		
56 nF	10%	4822 122 32183		750 E	2%	5322 111 90306		1,2 M	5%	4822 111 90409		
100 nF	10%	4822 122 31947		820 E	2%	4822 111 90171		1,3 M	5%	4822 111 90411		
180 nF	10%	4822 122 32915		910 E	2%	4822 111 90372		1,5 M	5%	4822 111 90412		
220 nF	20%	4822 122 32715		1 k	2%	5322 111 90092		1,6 M	5%	4822 111 90413		
⊖  Chips 0,125 W S1206 NP0				1,1 k	2%	4822 111 90336		1,8 M	5%	4822 111 90414		
0 E	jumper	4822 111 90163		1,2 k	2%	5322 111 90096		2 M	5%	4822 111 90415		
1 E	5%	4822 111 90184		1,3 k	2%	4822 111 90244		2,2 M	5%	4822 111 90185		
1,1 E	5%	4822 111 90377		1,5 k	2%	4822 111 90151		2,4 M	5%	4822 111 90416		
1,2 E	5%	4822 111 90378		1,6 k	2%	5322 111 90265		2,7 M	5%	4822 111 90417		
1,3 E	5%	4822 111 90379		1,8 k	2%	5322 111 90101		3 M	5%	4822 111 90418		
1,5 E	5%	4822 111 90381		2 k	2%	4822 111 90165		3,3 M	5%	4822 111 90191		
1,6 E	5%	4822 111 90382		2,2 k	2%	4822 111 90248		3,6 M	5%	4822 111 90419		
1,8 E	5%	4822 111 90383		2,4 k	2%	4822 111 90289		3,9 M	5%	4822 111 90421		
2 E	5%	4822 111 90384		2,7 k	2%	4822 111 90569		4,3 M	5%	4822 111 90422		
2,2 E	5%	5322 111 90104		3 k	2%	4822 111 90198		4,7 M	5%	4822 111 90423		
2,4 E	5%	4822 111 90385		3,3 k	2%	4822 111 90157		5,1 M	5%	4822 111 90424		
2,7 E	5%	4822 111 90386		3,6 k	2%	5322 111 90107		5,6 M	5%	4822 111 90425		
3 E	5%	4822 111 90387		3,9 k	2%	4822 111 90571		6,2 M	5%	4822 111 90426		
3,3 E	5%	4822 111 90388		4,3 k	2%	4822 111 90167		6,8 M	5%	4822 111 90235		
3,6 E	5%	4822 111 90389		4,7 k	2%	5322 111 90111		7,5 M	5%	4822 111 90427		
				5,1 k	2%	5322 111 90268		8,2 M	5%	4822 111 90237		
				5,6 k	2%	4822 111 90572		9,1 M	5%	4822 111 90428		



27 012C12

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<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Carbon film</p> <p>0.2 W    70°C    5%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Carbon film</p> <p>0.33 W    70°C    5%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Metal film</p> <p>0.33 W    70°C    5%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Carbon film</p> <p>0.5 W    70°C    5%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Carbon film</p> <p>0.67 W    70°C    5%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Carbon film</p> <p>1.15 W    70°C    5%</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Ceramic plate</p> <p>Tuning ≤ 120 pF NP.0    2%</p> <p>Others    -20/+80%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Polyester flat foil    10%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Metalized polyester flat film    10%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Polyester flat foil small size (Mylar)    10%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Polysterene film/foil    1%</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Tubular ceramic</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Miniature single</p> </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>Subminiature tantalum    ± 20%</p> </div> </div>	<p>*a = 2,5 V        b = 4 V        c = 6,3 V        d = 10 V        e = 16 V        f = 25 V        g = 40 V        h = 63 V        j = 100 V        l = 125 V        m = 150 V        n = 160 V        q = 200 V        r = 250 V        s = 300 V        t = 350 V        u = 400 V        v = 500 V        w = 630 V        x = 1000 V        A = 1,6 V        B = 6 V        C = 12 V        D = 15 V        E = 20 V        F = 35 V        G = 50 V        H = 75 V        I = 80 V</p>
<p>© Chip component</p>		

					
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3118	56k	4822 111 91535	5052		4822 157 50975
3119	56k	4822 111 91535	5054		4822 152 20677
3120	56k	4822 111 91535	5055		4822 152 20677
3121	56k	4822 111 91535	5056		4822 152 20677
3124	2M2	4822 111 91511	5057		4822 152 20679
3125	2M2	4822 111 91511	5059		4822 157 50975
3126	39k	4822 111 91528	5060		4822 152 20682
3130	390k	4822 111 91502	5061		4822 152 20683
3140	2K7	4822 111 91525	5062		4822 152 20678
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3148	100k	4822 111 91518			
3149	100k	4822 111 91518			
3150	3k3	4822 111 91526			
3151	3k3	4822 111 91526			
3152	100k	4822 111 91518			
3153	100k	4822 111 91518			
3158	5k6	4822 111 91534			
3159	5k6	4822 111 91534	 BC847B Chip Transistor 4822 130 60511		
3160	5k6	4822 111 91534			
3161	5k6	4822 111 91534	 6050 TEA6100 4822 209 72251 6051 TSA6057 4822 209 72248 6052 TEA6200 4822 209 72247 6053 M8571B6 4822 209 11506 6055 TA7705P 4822 209 82116 6057 TMP47C421AF 4822 209 72254 6060 TDA1518Q 4822 209 72249 6063 L4918 4822 209 72253 6064 L4904 4822 209 72252		
3165	100k	4822 111 91518			
3166	100k	4822 111 91518			
3167	100k	4822 111 91518			
3168	100k	4822 111 91518			
3169	100k	4822 111 91518			
3170	75E	4822 111 91506	 6050 TEA6100 4822 209 72251 6051 TSA6057 4822 209 72248 6052 TEA6200 4822 209 72247 6053 M8571B6 4822 209 11506 6055 TA7705P 4822 209 82116 6057 TMP47C421AF 4822 209 72254 6060 TDA1518Q 4822 209 72249 6063 L4918 4822 209 72253 6064 L4904 4822 209 72252		
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3172	270E	4822 111 91499			
3173	100k	4822 111 91518			
3174	100k	4822 111 91518			
3175	10k	4822 111 91517			
3176	10k	4822 111 91517			
3177	680E	4822 111 91504			
3178	4E7	4822 116 80464			
3180	4E7	4822 116 80464			
3204	22k	4822 111 91523			
4050	0E	4822 111 91536			
4051	0E	4822 111 91536			

For Service Manuals Contact  
**MAURITRON TECHNICAL SERVICES**  
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 Oxon OX9 4QY  
 Tel:- 01844-351694 Fax:- 01844-352554  
 Email:- enquiries@mauritron.co.uk





## SERVICING HINTS

### SERVICE TEST PROGRAMME

The µC test programme can be called without first entering the security code.

#### µC test

This test is called by turning the set on while keeping the P1 and P2 keys depressed.

Besides the RAM, a great number of µC instructions are tested. If no faults occur, a special pattern will be displayed. (See fig. 1f)

The test can be stopped by turning the set off.

#### Display test

The display test is called by turning the set on while keeping the P1 and P3 keys depressed.

A number of easily recognizable patterns are then displayed in succession. (See figs. 1a to 1h)

If you want to make one of the patterns visible for a longer time, you only have to keep the P1 key pressed for the required time.

### SECURITY CODE

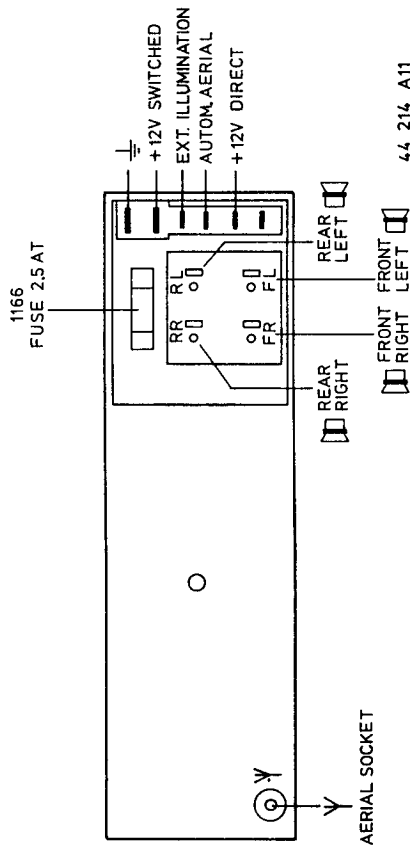
#### General

To reduce the risk of theft, this car radio has a built-in electronic lock. The security code has been entered in the factory and cannot be changed by the customer.

The security code consists of four figures varying between "0000" and "9999". The figures are selected by pressing the UP and DOWN keys and are entered by pressing the P1 key. If you enter a wrong code, you will hear an error beep and after 1 minute you will be given a new opportunity to enter the right code. Each time a wrong code is entered, the waiting time is doubled, so 1, 2, 4, 8 etc. with a maximum of 32 minutes.

**Note:** If the set is presented for repair with the security code switched on, and the customer has not stated the right code, the set will not be able to function.

Replacing the EEPROM by a "non-coded" EEPROM and/or replacing the microprocessor will not help in that case.



### TECHNICAL DATA

#### General

Power supply  
Dimensions (wxhxd)

: 14.4V DC  
: 180x51x150 mm

#### Radio

LW : 144-288 kHz  
MW : 522-1611 kHz  
FM : 87.5-108 MHz  
IF-AM : 10.7 MHz  
IF-FM : 10.7 MHz  
Sensitivity 26 dB S/R : 160 µV (LW)  
: 110 µV (MW)  
: 4 µV (FM)  
: 15 µV  
: 150 µV

Limitation α-3dB

10 dB crosstalk

#### Cassette player

Number of tracks  
Tape speed  
Wow & Flutter  
Crosstalk

: 2x2  
: 4.76 cm/sec  
: ≥ 0.35 %  
: ≤ 30 dB

#### Amplifier

Output power (D ≤ 10%)

Loudness

Tone control

: 4x5.2W ± 1 dB/4Ω  
: 7 dB at 100 Hz  
: 6 dB at 10 kHz  
: -9 dB at 100 Hz  
: -14dB at 10 kHz

## Working

### ACTIVATING THE SECURITY CODE

Proceed as follows:

Switch the set on while pressing the UP key.

Now you hear a two-tone beep and the protection is activated.

The car radio will signal that the code has been activated by briefly showing in the display the character "C" at the moment of switching on the radio.

#### ENTRY OF THE CODE

Example: Suppose the code is 4557.

Action	Display shows	Note
- Switch on	-	-
- Press P1	-	-
- Select UP/DOWN "4"	4	first figure
- Press P1	4-	-
- Select UP/DOWN "5"	45	second figure
- Press P1	45-	-
- Select UP/DOWN "6"	456	third figure
- Press P1	456-	-
- Select UP/DOWN "7"	4567	fourth figure
- Press P1	...	confirmation tone

The radio is now on and you can operate the cassette player.

Now that the security code is active, the code should be entered again each time the supply voltage has been interrupted.

To indicate that the security code is activated, the display briefly shows the character "C" each time the set is turned on.

### SWITCHING THE CODE OFF

Switch the set on while pressing the UP key. The display shows the indication "C-". Enter the right code in the way described above. Two two-tone squawks confirm that the security code is switched off.



All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).

Careless handling during repair can reduce service life drastically. When repairing, make sure that you are connected to the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.

For Service Manuals Contact  
MAURITRON TECHNICAL SERVICES

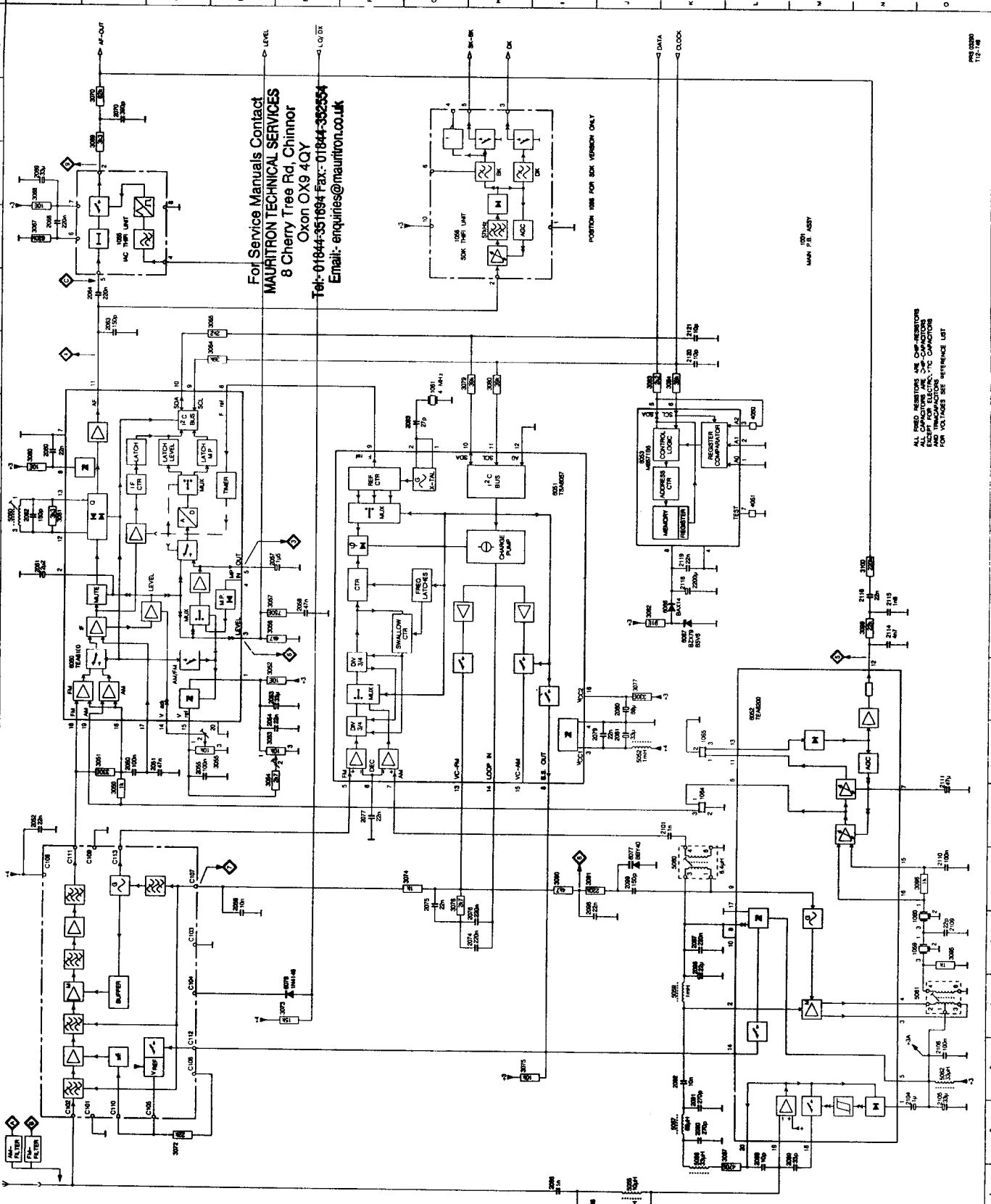
8 Cherry Tree Rd, Chinnor

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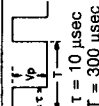
Tel: 01844-351694 Fax: 01844-352554

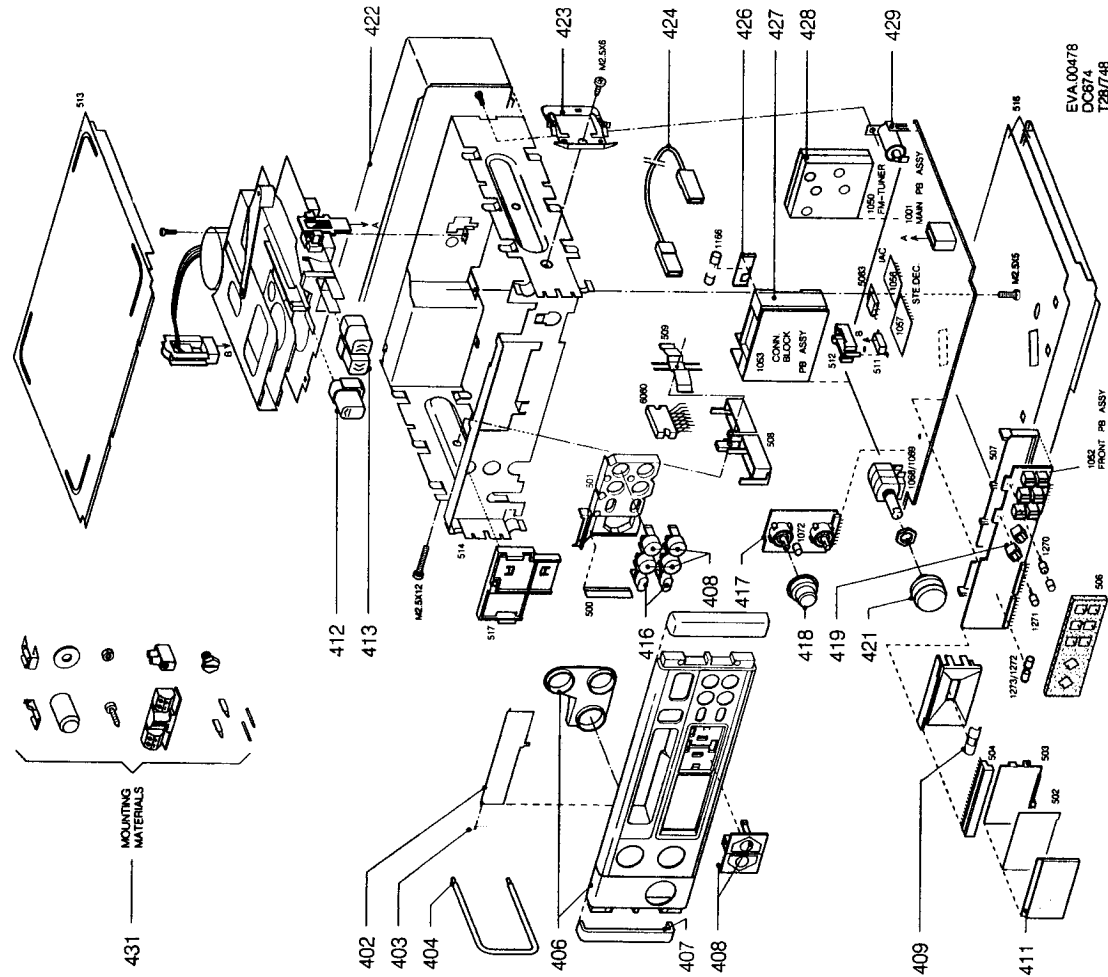
Email: enquiries@mauritron.co.uk

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2038 999  
2039 1000



For checking and adjusting see general procedures

Check	SK	Setting of controls	Setting of controls	Setting of controls	Setting of controls
FM-Mute	FM	93 MHz, 1 mV no signal	1 0dB (775 mV)	1 0dB (775 mV)	1 0dB (775 mV)
26dB-SNR	FM	93 MHz, 4 $\mu$ V $\Delta f = 22.5$ kHz f mod = 1 kHz	1 0dB (775 mV)	1 0dB (775 mV)	1 0dB (775 mV)
	FM	93 MHz, 4 $\mu$ V without mod.	1 $\geq 26$ dB	1 $\geq 26$ dB	1 $\geq 26$ dB
	MW	990 kHz, 110 $\mu$ V 1 kHz, 30% AM	1 0dB (775 mV)	1 0dB (775 mV)	1 0dB (775 mV)
	MW	990 kHz, 110 $\mu$ V without mod.	1 $\geq 26$ dB	1 $\geq 26$ dB	1 $\geq 26$ dB
Demodulated FM-levels	FM	93 MHz, 1 mV $\Delta f = 22.5$ kHz f mod = 1 kHz	4 200 mV $\pm$ 1 dB	4 200 mV $\pm$ 1 dB	4 200 mV $\pm$ 1 dB
	FM	93 MHz, 1 mV $\Delta f = 6.75$ kHz f mod = 1 kHz	4 50 mV $\pm$ 1 dB	4 50 mV $\pm$ 1 dB	4 50 mV $\pm$ 1 dB
Demodulated FM level	FM	93 MHz, 1 mV $\Delta f = 3.75$ kHz f mod = 57 kHz	4 20 mV $\pm$ 1 dB	4 20 mV $\pm$ 1 dB	4 20 mV $\pm$ 1 dB
Demodulated AM-level	MW	990 kHz, 1 mV 1 kHz, 30% AM	5 350 mV $\pm$ 1 dB	5 350 mV $\pm$ 1 dB	5 350 mV $\pm$ 1 dB
Cross talk	FM	93 MHz, 1 mV stereo signal	L 1 0dB (775 mV) R 2	L 1 0dB (775 mV) R 2	L 1 0dB (775 mV) R 2
	FM	93 MHz, 1 mV stereo-R	R 2 - L 1 $\geq 21$ dB	R 2 - L 1 $\geq 21$ dB	R 2 - L 1 $\geq 21$ dB
SDS/10dB Cross talk	FM	93 MHz, 1 mV stereo signal	L 1 0dB (775 mV) R 2	L 1 0dB (775 mV) R 2	L 1 0dB (775 mV) R 2
	FM	93 MHz, 150 $\mu$ V stereo-R	R 2 - L 1 $\geq 10$ dB	R 2 - L 1 $\geq 10$ dB	R 2 - L 1 $\geq 10$ dB
Search level FM	FM	93 MHz, 25 $\mu$ V	6 2 V-DC	6 2 V-DC	6 2 V-DC
Search level AM	MW	990 kHz, 70 $\mu$ V	3 1.75 V-DC	3 1.75 V-DC	3 1.75 V-DC
VC-FM	FM	87.5 MHz	7 $\geq 1.0$ V-DC	7 $\geq 1.0$ V-DC	7 $\geq 1.0$ V-DC
	FM	108 MHz	7 $\leq 6.0$ V-DC	7 $\leq 6.0$ V-DC	7 $\leq 6.0$ V-DC
VC-AM	LW	144 kHz	8 $\geq 0.8$ V-DC	8 $\geq 0.8$ V-DC	8 $\geq 0.8$ V-DC
	MW	1611 kHz	8 $\leq 6.0$ V-DC	8 $\leq 6.0$ V-DC	8 $\leq 6.0$ V-DC
I.A.C.	FM				



EVA 00478  
DC674  
128/748

- 402 4822 443 52358
- 402 4822 443 52358
- 402 4822 443 52358
- 403 4822 492 42231
- 404 4822 403 53282
- 406 4822 423 50891
- 406\* 4822 423 50892
- 406\* 4822 423 50893
- 406\* 4822 423 50894
- 407 4822 443 52269
- 408 4822 410 26328
- 409 4822 462 71456
- 411 4822 130 90499
- 412 4822 410 26314
- 412 4822 410 26315
- 413 4822 410 26316
- 416 4822 410 26333
- 416 4822 410 26339
- 417 4822 214 51694
- 418 4822 413 31509
- 419 4822 276 12296
- 421 (DC570, 574)
- 421 (DC670, 674)
- 422 4822 413 31508
- 422 4822 443 30463
- 423 4822 492 63822
- 424 4822 321 21135
- 426 4822 256 30338
- 427 4822 267 40763
- 428 4822 210 10305
- 429 4822 267 30883
- 431 4822 310 10079

\* Incl. items 402, 403, 407

**For adjusting and checking see general procedures**


















Adjustment	SK					
Quadrature detector	FM	93 MHz, 10 $\mu$ V			5050	via 100 k $\Omega$ : 11-15 IC9050 $\leq$ 100 mV DC
$\alpha$ -3dB	FM	93 MHz, 1 mV $\Delta f = 22.5$ kHz $f_{mod} = 1$ kHz				 0dB (775 mV)
		93 MHz, 15 $\mu$ V $\Delta f = 22.5$ kHz $f_{mod} = 1$ kHz			3055	 -3dB
AM-search level	MW	990 kHz, 70 $\mu$ V			3053	 1.75 V DC

Figure 1 consists of two digital displays, (a) and (b), showing the effect of a 100% increase in FM1 signal level. Both displays show a signal level of 100.0% and a 100% increase in FM1, resulting in a 100.0% increase in FM1.

(a) PRE → LOUD  
LW 100.0%  
MW 100.0%  
FM2 100.0%  
FM1 100.0%  
AST STEREO INFO SK DK

(b) PRE → LOUD  
LW 100.0%  
MW 100.0%  
FM2 100.0%  
FM1 100.0%  
AST STEREO INFO SK DK

FM1 AST STEREO INFO SK DK  
d.

FM2 174.75

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h.

6052 TEA6200

1	6.8V AM	11	6.8V AM
2	4.0V AM	12	1.3V MP-5
3	8.5V	13	4.8V AM
4	8.5V	14	8.5V AM
5	8.5V	15	4.8V AM
6	8.5V	16	4.8V AM
7	0.7V	17	GND.
8	4.0V AM	18	1.0V AM
9	4.0V AM	19	1.3V AM
10	4.0V AM	20	3.3V AM

5053 M8571B6

1 = GND.  
2 = GND.  
3 = GND.  
4 = GND.  
5 = 4.8V(SDA)  
6 = 4.8V(SCL)  
7 = GND.  
8 = 5.0V.

5055 TA7705D

1 = 8.5V  
2 = 3.3V; 0.0V eject  
3 = 0.0V > eject  
9 = 2.9V  
10 = N.C  
11 = 2.9V

12 = 2.9V  
13 = 2.9V  
14 = N.C.  
15 = N.C.  
16 = 3.3V

5060/6061 TDA1518C

1 = 2.2V  
2 = 2.2V  
3 = GND.  
4 = 2.2V  
5 = 6.6V  
6 = 14.4V  
7 = GND.  
8 = 14.4V  
9 = 6.6V  
10 = 14.4V  
11 = 14.4V  
12 = 6.6V  
13 = 2.2V

5063 L4918

1 = 14.4V  
2 = 2.6V  
3 = GND.  
4 = GND.  
5 = 8.5V.

506414904

1 = 12.7V  
2 = 8.5V  
3 = 5.6V  
4 = GND  
5 = N.C  
6 = 4.2V  
7 = 5.0V  
8 = 5.0V

690978905

e = 0.1V loudn. on  
p = 0.7V loudn. on  
c = 0.1V loudn. on

6074

**e = GND.**  
**b = 0.0V**

6075

e = GND.  
b = 0.7V  
c = 0.0V

any position  
position FM  
position AM  
position play forward  
position play reverse  
position eject

50 FM TUNER

C107 = VC-FM MP-7  
C108 = 1.4V  
C109 = GND.  
C110 = 1.7V  
C111 = 2.9V  
C112 = 0.2V  
C113 = 1.8V

55 IAC-THIF

5 = 4.3V  
6 = 8.1V  
7 = 8.4V  
8 = GND.

0.0V 110 signal

57 ST DEC THIEI

11= 5.0V mono  
0.0V stereo  
12= N.C  
13= 5.0V muted

0.0V signal muted  
14= 0.0V  
5.0V signal  
15= 3.5V  
16= 3.5V  
17= 3.5V  
18= 3.5V  
19= 3.5V  
20= 3.5V

50 TEA6100

11= 4.2V MP-4  
12= 4.6V  
13= 4.6V

0.0V no signal  
= N.C  
= MP-3  
= 40 kHz  
= GND.  
= 8.4V  
= 4.8V(SDA)  
4.8V(SCL)

51 TSA6057

9 = 40 kHz  $\pm$  0.6Hz  
10 = 4.8V(SDA)  
11 = 4.8V(SCL)  
12 = GND.  
13 = VC-FM 1.3V-5.8V  
(87.5MHz-108MHz)  
14 = 2.0V  
15 = N.C  
16 = 8.3V

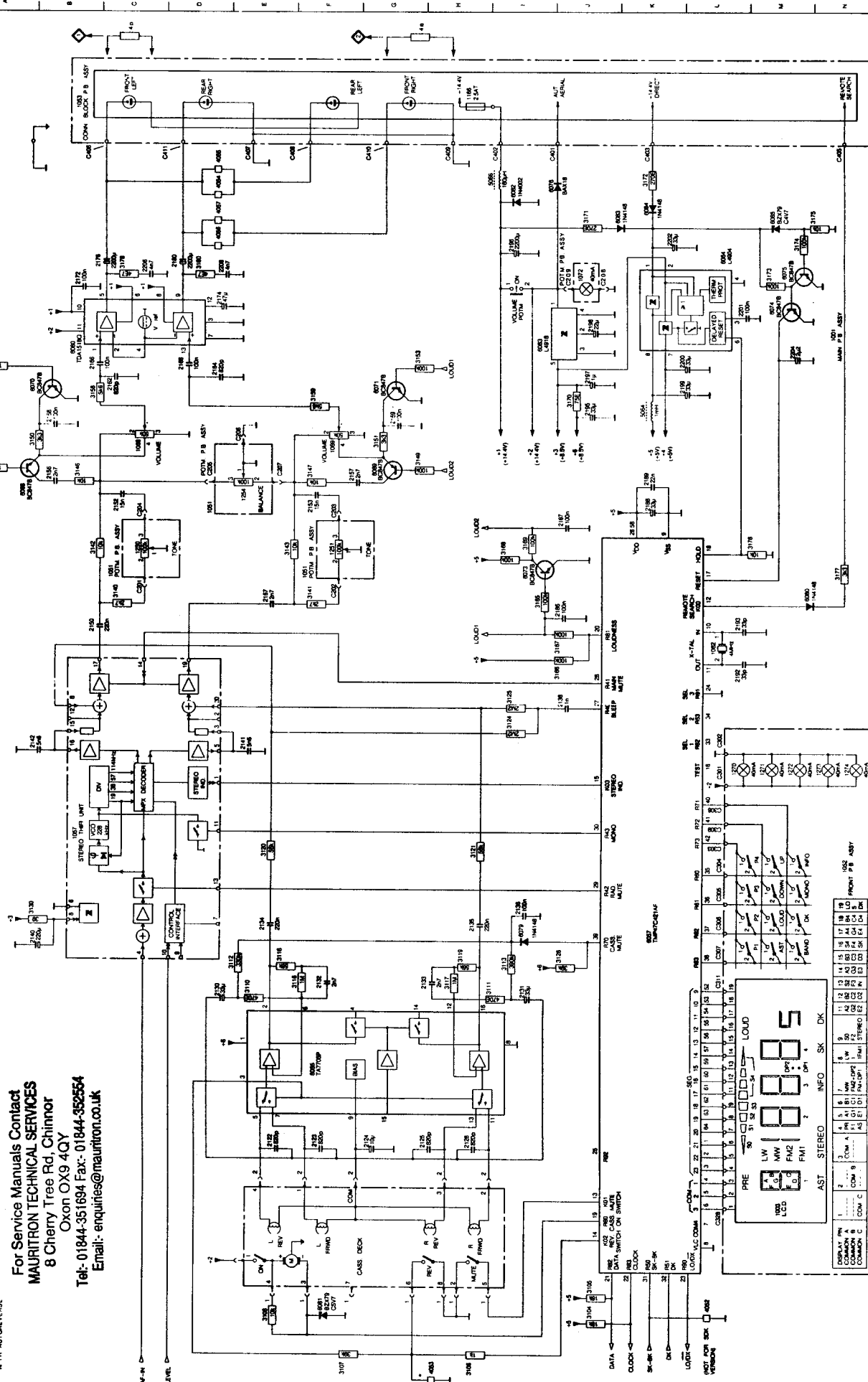
0 = GND.  
1 = 0.6V loudn. off  
2 = 0.0V loudn. on  
3 = 0.0V loudn. off  
4 = 3.3V loudn. on

18 608

**Fig. 1**

42 947 B12






















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- any position  
position FM  
position AM  
position play forward  
position play reverse  
position eject
- 1050 FM TUNER  
C107= VC-FM MP-7  
C108= 1.4V  
C109= GND.  
C110= 1.7V  
C111= 2.9V  
C112= 0.2V  
C113= 1.8V
- 1055 IAC-THIFI  
1 = N.C.  
2 = 2.5V MP-9  
3 = N.C.  
4 = 4.3V signal  
0.0V no signal
- 1057 ST DEC. THIFI  
1 = 5.0V mono  
0.2V stereo  
2 = N.C.  
3 = 3.5V  
4 = 2.5V  
5 = 3.5V  
6 = GND.  
7 = N.C.  
8 = 7.3V  
9 = N.C.  
0 = 4.3V signal  
0.0V no signal
- 050 TEA6100  
1 = 8.4V  
2 = 0.8V  
3 = 4.3V signal  
0.0V no signal  
4 = N.C.  
5 = MP-3  
6 = 40 kHz  
7 = GND.  
8 = 8.4V  
9 = 4.8V(SDA)  
0 = 4.8V(SCL)  
20 = GND.
- 051 TSA6057  
9 = 40 kHz  $\pm$  0.6Hz  
10 = 4.8V(SDA)  
11 = 4.8V(SCL)  
12 = GND.  
13 = VC-FM 1.3V-5.8V  
(87.5MHz-108MHz)  
14 = 2.0V  
15 = N.C.  
16 = 8.3V
- 6052 TEA6200  
1 = 6.8V AM  
2 = 4.0V AM  
3 = 8.5V  
4 = 8.5V  
5 = 8.5V  
6 = 8.5V  
7 = 0.7V  
8 = 4.0V AM  
9 = 4.0V AM  
10 = 4.0V AM
- 6053 M8571B6  
1 = GND.  
2 = GND.  
3 = GND.  
4 = GND.
- 6055 TA7705P  
1 = 8.5V  
2 = 3.3V; 0.0V eject  
3 = 0.0V >, eject  
5.0V <  
4 = N.C.  
5 = 2.9V  
6 = 2.9V  
7 = 2.9V  
8 = GND.  
10 = N.C.  
11 = 2.9V  
12 = 2.9V  
13 = 2.9V  
14 = N.C.  
15 = N.C.  
16 = 3.3V
- 6060 TDA1518Q  
1 = 2.2V  
2 = 2.2V  
3 = GND.  
4 = 2.2V  
5 = 6.6V  
6 = 14.4V  
7 = GND.
- 6063 L4918  
1 = 14.4V  
2 = 2.6V  
3 = GND.  
4 = GND.  
5 = 8.5V
- 6064 L4904  
1 = 12.7V  
2 = 8.5V  
3 = 5.6V  
4 = GND.
- 6068/6069  
e = 0.1V loudn. on  
b = 0.7V loudn. on  
c = 0.1V loudn. on
- 6070/6071  
e = GND.  
b = 0.6V loudn. off  
c = 0.0V loudn. off  
0.1V loudn. on
- 6073  
e = GND.  
b = 0.6V loudn. off  
c = 0.0V loudn. off  
3.3V loudn. on
- 6074  
e = GND.  
b = 0.0V  
c = 5.0V
- 6075  
e = GND.  
b = 0.7V  
c = 0.0V
- 11 = 6.8V AM  
12 = 1.3V MP-5  
13 = 4.8V AM  
14 = 8.5V AM  
15 = 4.8V AM  
16 = 4.8V AM  
17 = GND.  
18 = 1.0V AM  
19 = 1.3V AM  
20 = 3.3V AM
- 5 = 4.8V(SDA)  
6 = 4.8V(SCL)  
7 = GND.  
8 = 5.0V
- 9 = 2.9V  
10 = N.C.  
11 = 2.9V  
12 = 2.9V  
13 = 2.9V  
14 = N.C.  
15 = N.C.  
16 = 3.3V
- 8 = 14.4V  
9 = 6.6V  
10 = 14.4V  
11 = 14.4V  
12 = 6.6V  
13 = 2.2V
- 5 = N.C.  
6 = 4.2V  
7 = 5.0V  
8 = 5.0V

For adjusting and checking see general procedures

Adjustment	SK					
Quadrature detector	FM	93 MHz, 10 $\mu$ V			5050	via 100 k $\Omega$ : 11-15 IC6050 $\leq$ 100 mV DC
	FM	93 MHz, 1 mV $\Delta f$ = 22.5 kHz f mod = 1 kHz				
$\alpha$ -3dB		93 MHz, 15 $\mu$ V $\Delta f$ = 22.5 kHz f mod = 1 kHz			3055	
	AM-search level	990 kHz, 70 $\mu$ V			3053	

PRE 188.85 FM1  
AST STEREO INFO SK DK

a.

PRE 177.7 FM1  
AST STEREO INFO SK DK

c.

PRE 199.95 FM1  
AST STEREO INFO SK DK

e.

PRE 777 FM1  
AST STEREO INFO SK DK

g.

166.65 FM1  
AST STEREO INFO SK DK

b.

177.7 FM1  
AST STEREO INFO SK DK

d.

177.7 FM1  
AST STEREO INFO SK DK

f.

177.7 FM1  
AST STEREO INFO SK DK

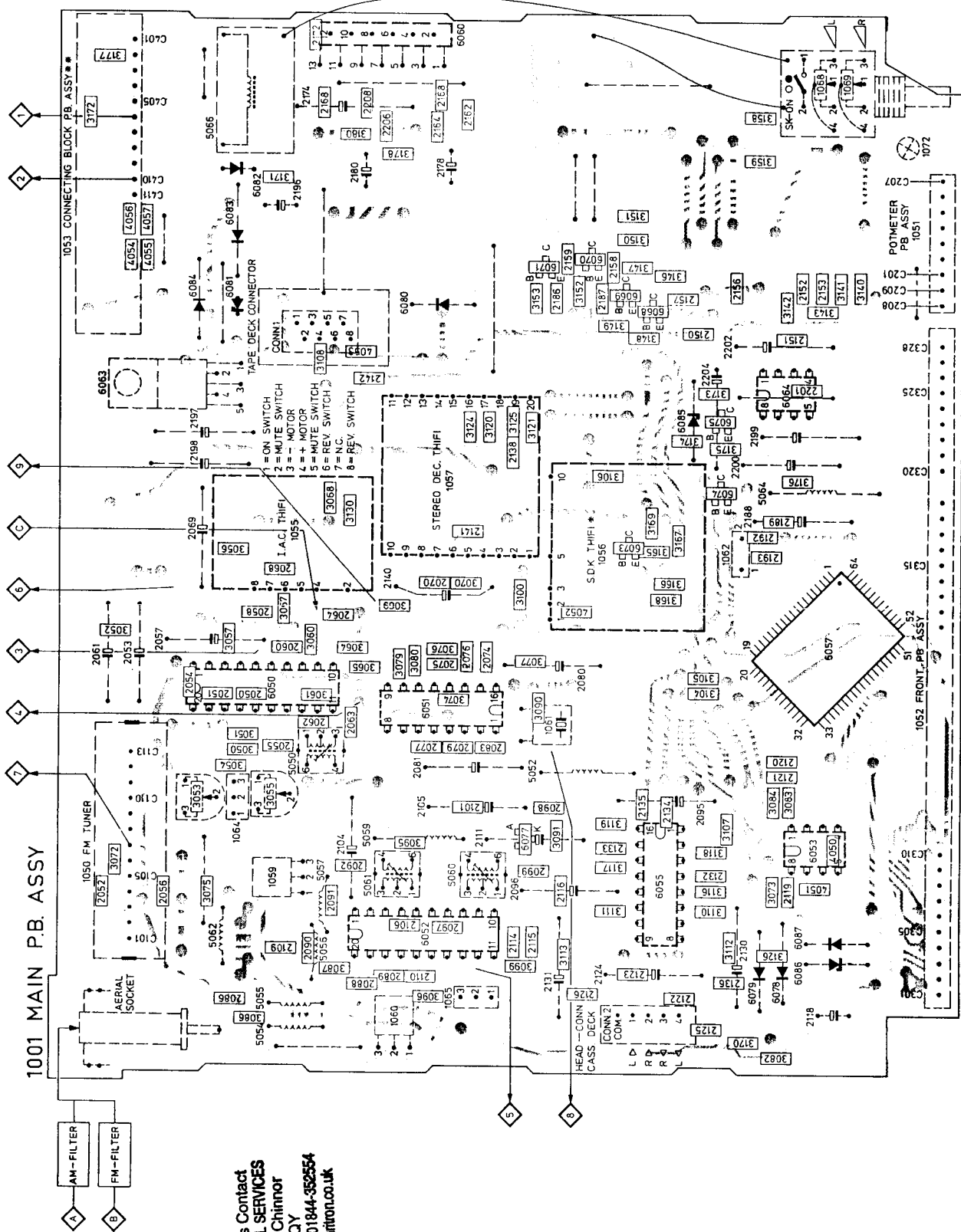
h.

Fig. 1

42 947 B12

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- 2... CHIP CAPACITOR
  - 3... CHIP RESISTOR
  - 4... CHIP JUMPER
  - 5... CHIP TRANSISTOR
- 
- 1056 FOR SDK VERSION ONLY
  - 4052 NOT FOR SDK VERSION
  - 4053 NOT FOR AUTO REVERSE VERSION
- 
- 1053 CONNECTING BLOCK P.B. ASSY\*\*
  - C 401 = REMOTE SEARCH
  - C 402 = +12V SWITCHED
  - C 403 = +12V DIRECT
  - C 404 = N.C.
  - C 405 = AUTO AERIAL
  - C 406 = +FL
  - C 407 = -L
  - C 408 = +RL
  - C 409 = -R
  - C 410 = +FR
  - C 411 = -RR

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## SERVICING HINTS

### SERVICE TEST PROGRAMME

The  $\mu$ C test programme can be called without first entering the security code.

#### $\mu$ C test

This test is called by turning the set on **while** keeping the P1 and P2 keys depressed. Besides the RAM, a great number of  $\mu$ C instructions are tested. If no faults occur, a special pattern will be displayed. (See fig. 1f) The test can be stopped by turning the set off.

#### Display test

The display test is called by turning the set on **while** keeping the P1 and P3 keys depressed. A number of easily recognizable patterns are then displayed in succession. (See figs. 1a to 1h) If you want to make one of the patterns visible for a longer time, you only have to keep the P1 key pressed for the required time.

### SECURITY CODE

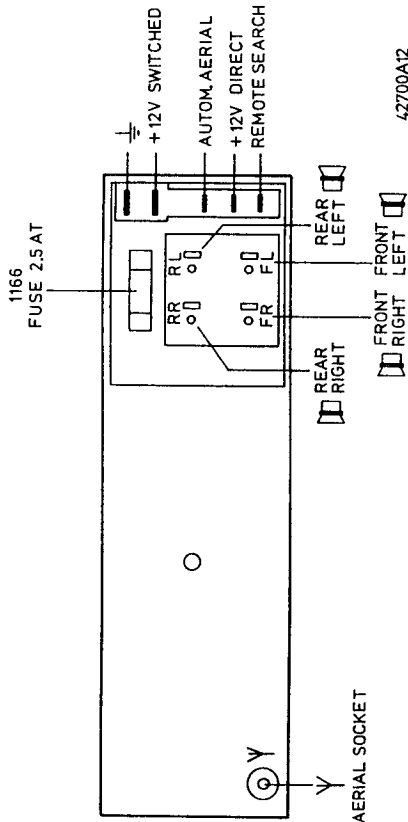
#### General

To reduce the risk of theft, this car radio has a built-in electronic lock. The security code has been entered in the factory and cannot be changed by the customer. The security code consists of four figures varying between "0000" and "9999". The figures are selected by pressing the UP and DOWN keys and are entered by pressing the P1 key. If you enter a wrong code, you will hear an error beep and after 1 minute you will be given a new opportunity to enter the right code. Each time a wrong code is entered, the waiting time is doubled, so 1, 2, 4, 8 etc. with a maximum of 32 minutes.

**Note:** If the set is presented for repair with the security code switched on, and the customer has not stated the right code, the set will not be able to function.

Replacing the eeprom by a "non-coded" eeprom and/or replacing the microprocessor will not help in that case.

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### TECHNICAL DATA

#### General

Power supply : 14.4V DC  
 Dimensions(w x h x d) : 180x51x150 mm  
 Remote control unit : 22EN9875

#### Radio

LW : 144-288 kHz  
 MW : 522-1611 kHz  
 FM : 87.5-108 MHz  
 IF-AM : 10.7 MHz  
 IF-FM : 10.7 MHz  
 Sensitivity 26 dB S/R : 160  $\mu$ V (LW)  
 : 110  $\mu$ V (MW)  
 : 4  $\mu$ V (FM)  
 : 15  $\mu$ V  
 : 150  $\mu$ V

Limitation  $\alpha$ -3dB  
 10 dB crosstalk

#### Cassette player

Number of tracks : 2x2  
 Tape speed : 4.76 cm/sec  
 Wow & Flutter :  $\geq 0.35\%$   
 Crosstalk :  $\leq 30$  dB

#### Amplifier

Output power (D  $\leq 10\%$ ) : 2x5.2W  $\pm 1$  dB/4Q  
 Loudness : 7 dB at 100 Hz  
 : 6 dB at 10 kHz  
 Tone control : -9 dB at 100 Hz  
 : -14dB at 10 kHz

## Working

### ACTIVATING THE SECURITY CODE

Proceed as follows:

Switch the set on **while** pressing the **UP** key.  
 Now you hear a two-tone beep and the protection is activated.

The car radio will signal that the code has been activated by briefly showing in the display the character "-C-" at the moment of switching on the radio.

### ENTRY OF THE CODE

**Example: Suppose the code is 4567.**

Action	Display shows	Note
- Switch on	-C-	
- Press P1		
- Select UP/DOWN "4"	4	first figure
- Press P1		
- Select UP/DOWN "5"	45	second figure
- Press P1		
- Select UP/DOWN "6"	456	third figure
- Press P1		
- Select UP/DOWN "7"	4567	fourth figure
- Press P1	...	confirmation tone

The radio is now on and you can operate the cassette player.

Now that the security code is active, the code should be entered again each time the supply voltage has been interrupted.

To indicate that the security code is activated, the display briefly shows the character "C" each time the set is turned on.

### SWITCHING THE CODE OFF

Switch the set on **while** pressing the **UP** key. The display shows the indication "-C-". Enter the right code in the way described above. Two two-tone squeaks confirm that the security code is switched off.



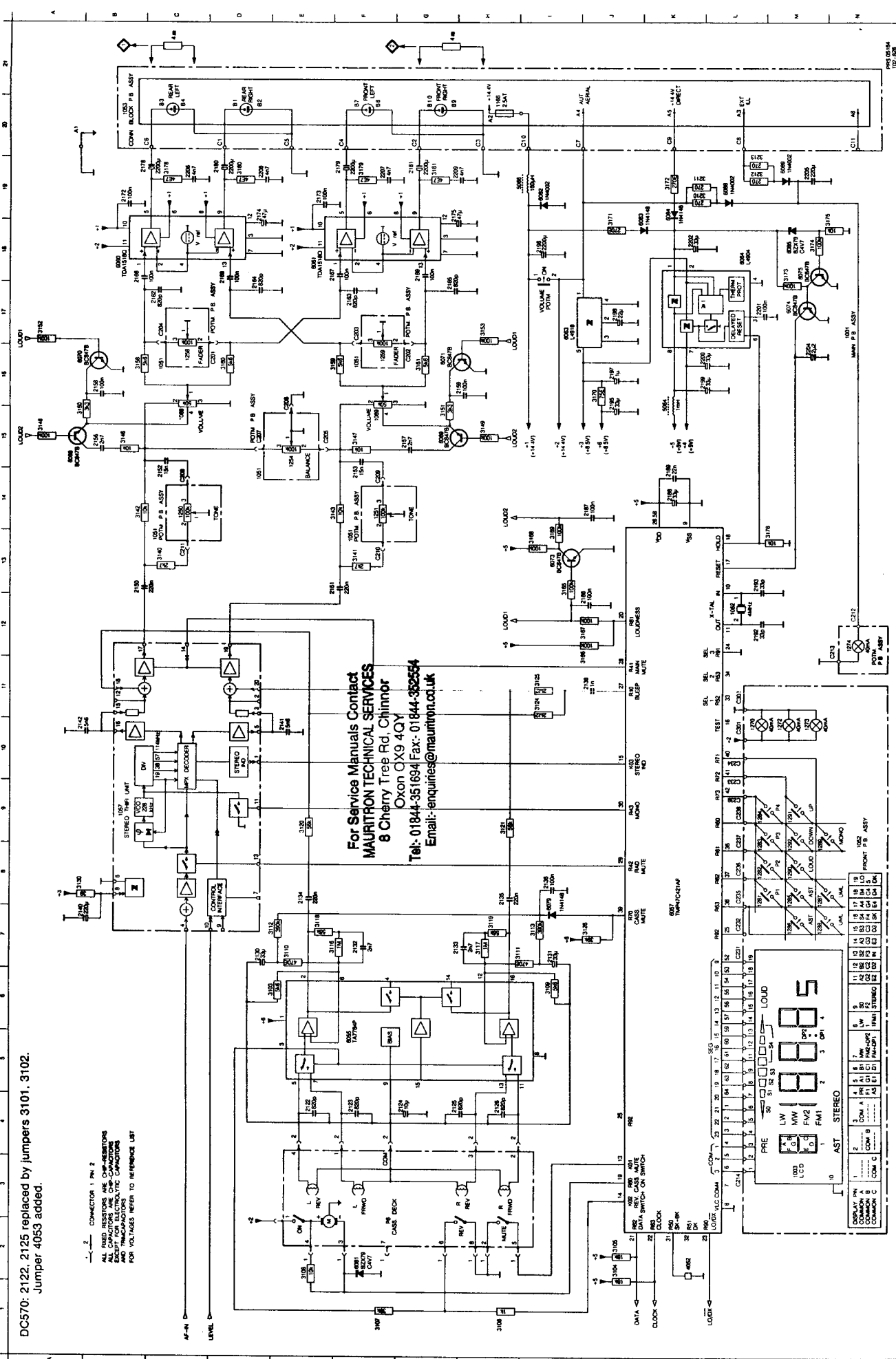
All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce service life drastically. When repairing, make sure that you are connected to the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.

DC570: 2122, 2125 replaced by jumpers 3101, 3102.  
Jumper 4053 added.

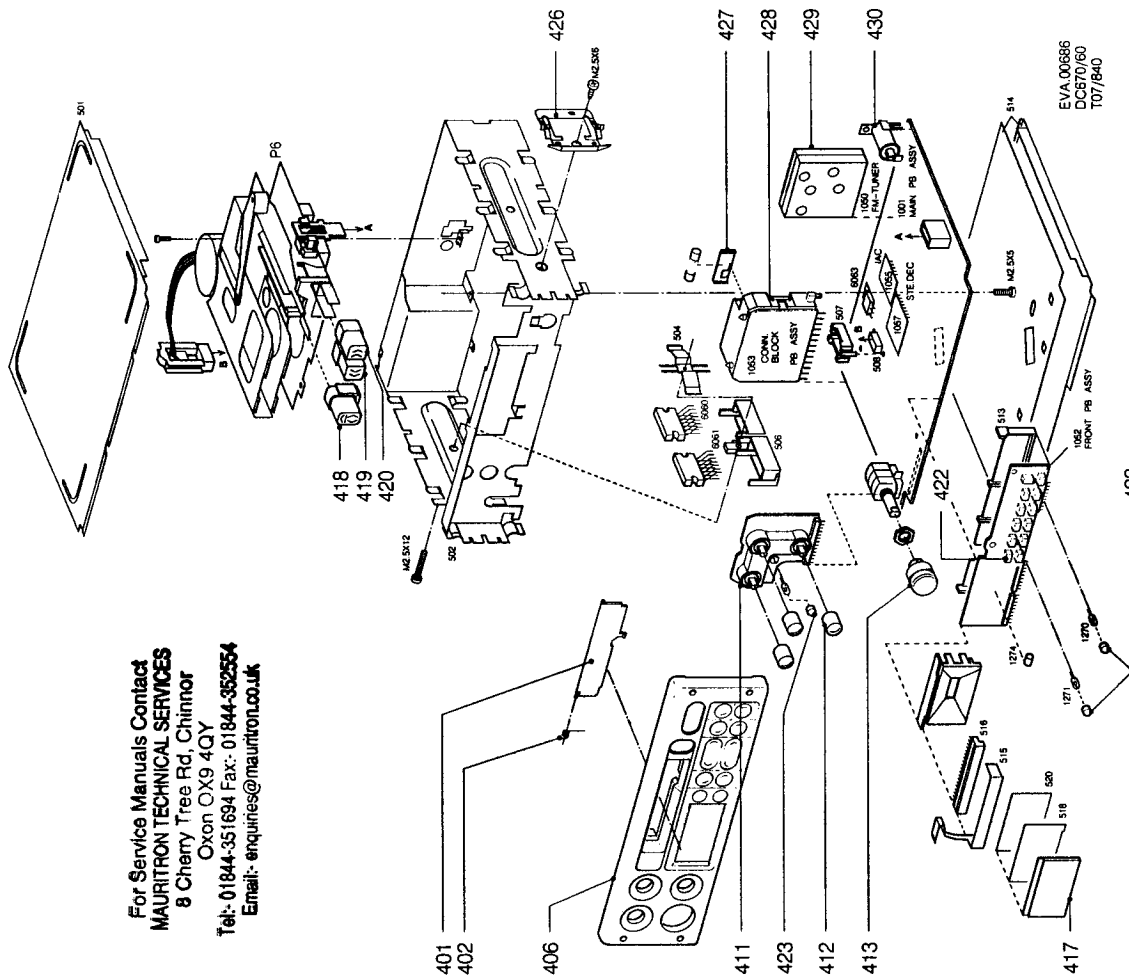
ALL FIXED RESISTORS ARE CHIP-RESISTORS  
UNLESS OTHERWISE SPECIFIED  
RESISTOR VALUES ARE IN OHMS  
AND TOLERANCES ARE IN PERCENT  
FOR VOLTAGES REFER TO REFERENCE LIST

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Email: enquiries@mauritron.co.uk







Check	SK	Ⓢ	Setting of controls	Ⓢ	Ⓢ
FM-Mute	FM	93 MHz, 1 mV no signal		1 0dB (775 mV) -30dB ≤ -40dB	
26dB-SNR	FM	93 MHz, 4 μV Δf = 22.5 kHz f mod = 1 kHz		1 0dB (775 mV)	
	FM	93MHz, 4μV without mod.		1 ≥ 26dB	
MW	MW	990 kHz, 110 μV 1 kHz, 30% AM		1 0dB (775 mV)	
	MW	990kHz, 110 μV without mod.		1 ≥ 26dB	
Demodulated FM-levels	FM	93MHz, 1mV Δf = 22.5 kHz f mod = 1 kHz		4 200 mV ± 1dB	
	FM	93 MHz, 1 mV Δf = 6.75 kHz f mod. = 1 kHz		4 50 mV ± 1dB	
Demodulated FM level	FM	93 MHz, 1 mV Δf = 3.75 kHz f mod. = 57 kHz		4 20 mV ± 1 dB	
Demodulated AM-level	MW	990 kHz, 1 mV 1kHz, 30% AM		5 350 mV ± 1dB	
Cross talk	FM	93 MHz, 1 mV stereo signal		L 1 0dB (775 mV) R 2	
	FM	93 MHz, 1 mV stereo-R		R 2 - L 1 ≥ 21dB	
SDS/10dB Cross talk	FM	93 MHz, 1 mV stereo signal		L 1 0dB (775 mV) R 2	
	FM	93 MHz, 150 μV stereo-R		R 2 - L 1 = 10dB	
Search level FM	FM	93 MHz, 25μV		6 2 V-DC	
Search level AM	MW	990 kHz, 70μV		3 1.75 V-DC	
VC-FM	FM	87.5 MHz 108 MHz		7 ≥ 1.0 V-DC 7 ≤ 6.0 V-DC	
	FM	144 kHz 1611 kHz		8 ≥ 0.8 V-DC 8 ≤ 6.0 V-DC	
VC-AM	LW MW				
I.A.C.	FM	 T = 10 μsec T = 300 μsec Vp = 60 mV			 25-50 μs

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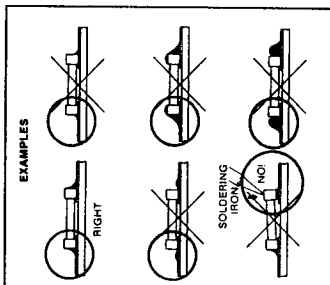
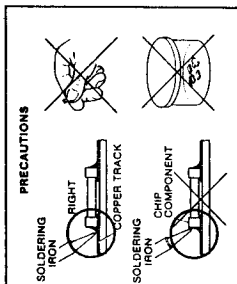


401 4822 443 62676 (570)  
 401 4822 443 62271  
 402 4822 492 422-1  
 406\* 4822 423 50944 (570/60E)  
 406\* 4822 423 50932 (670/60)  
 406\* 4822 423 50939 (670/60E)  
 411 4822 214 51739  
 412 4822 413 41479  
 413 4822 413 41481  
 417 4822 130 90499  
 418 4822 410 20902 (570)  
 418 4822 410 26735 (670)  
 419 4822 318 40380 (570)  
 419 4822 410 26738 (670)  
 420 4822 318 40380 (570)  
 420 4822 410 26736 (670)  
 422 4822 276 12469  
 423 4822 134 40921  
 426 4822 492 63822  
 427 4822 256 30338  
 428 4822 267 50859  
 429 4822 210 10305  
 430 4822 267 30883  
 \* Incl. items 401, 402

- MISCELLANEOUS -		-II-	
1055	IAC-Thifi	4822 214 51676	2168
1057	STEREO DEC. Thifi	4822 214 51677	2168
1059	Cer.Filiter 10.7 MHz	4822 242 72076	2172
1060	Cer.Filiter 10.7 MHz	4822 242 72076	2178
1061	Crystal 4 MHz	4822 242 71881	2180
1062	Crystal 4 MHz	4822 242 71882	2186
1064	Cer.Filiter 10.7 MHz	4822 242 71883	2187
1065	Cer.Filiter 10.7 MHz	4822 242 71883	2192
1068	Potm.Volume 2X50kQ	4822 101 40145	2193
1166	Fuse 2.5A(T)	4822 253 30026	2196
1250/1251	Potm.Tone 2X100kQ	4822 102 30462	2201
1254	Potm.Balance 100kQ	4822 100 20863	2204
	Lamp 14V-40mA	4822 134 40867	2206
	Lamp 14V orange	4822 134 40921	2208
-II-		-II-	
2050	100nF	4822 122 33104	3050
2051	47 nF	4822 122 33211	3051
2055	100nF	4822 122 33104	3052
2056	10 nF	4822 122 31728	3053
2057	47 nF	4822 122 33211	3054
2061	2.2uF	4822 124 20706	3055
2062	150pF	4822 122 33181	3056
2063	270pF	4822 122 33216	3057
2064	220nF	4822 122 32916	3060
2068	220nF	4822 122 32916	3061
2070	390pF	4822 122 33172	3064
2074	220nF	4822 122 32916	3065
2076	220nF	4822 122 32916	3067
2083	27 pF	4822 122 33214	3068
2088	10 pF	4822 122 33212	3069
2089	33 pF	4822 122 33215	3070
2090	270pF	4822 122 33216	3072
2091	270pF	4822 122 33216	3073
2092	10 nF	4822 122 33177	3074
2097	220nF	4822 122 32916	3075
2099	150pF	4822 122 33222	3076
2106	100nF	4822 122 33104	3077
2109	22 pF	4822 122 33213	3079
2110	100nF	4822 122 33104	3080
2114	4.7nF	4822 122 33217	3082
2115	3.3nF	4822 122 33219	3083
2118	220uF	4822 124 41453	3084
2120	10 pF	4822 122 33212	3086
2121	10 pF	4822 122 33212	3087
2122	820pF	4822 122 33218	3090
2123	820pF	4822 122 33218	3091
2125	820pF	4822 122 33218	3095
2126	820pF	4822 122 33218	3096
2132	2.7nF	4822 122 33176	3099
2133	2.7nF	4822 122 33176	3100
2134	220nF	4822 122 32916	3104
2135	200nF	4822 122 32916	3105
2136	100nF	4822 122 33104	3106
2140	220uF	4822 124 22409	3107
2141	5.6nF	4822 122 33221	3108
2142	5.6nF	4822 122 33221	3110
2150	220nF	4822 122 32916	3111
2151	220nF	4822 122 32916	3112
2156	1.8nF	4822 122 33144	3113
2157	1.8nF	4822 122 33144	3116
2158	100nF	4822 122 33209	3110
2162	820pF	4822 122 33218	3111
2164	820pF	4822 122 33218	3112

		3117	1M	4822 111 91509	5050
		3118	56k	4822 111 91535	5052
		3119	56k	4822 111 91535	5054
		3120	56k	4822 111 91535	5055
		3121	56k	4822 111 91535	5056
		3124	2M2	4822 111 91511	5057
		3125	2M2	4822 111 91511	5059
		3126	39k	4822 111 91528	5060
		3130	390k	4822 111 91502	5061
		3140	2K7	4822 111 91525	5062
		3141	2K7	4822 111 91525	5064
		3142	10k	4822 111 91517	5066
		3143	10k	4822 111 91517	5066
		3146	15k	4822 111 91498	5066
		3147	15k	4822 111 91498	5066
		3148	100k	4822 111 91518	5066
		3149	100k	4822 111 91518	5066
		3150	3K3	4822 111 91526	5066
		3151	3K3	4822 111 91526	5066
		3152	100k	4822 111 91518	5066
		3153	100k	4822 111 91518	5066
		3158	5K6	4822 111 91534	5066
		3159	5K6	4822 111 91534	5066
		3160	5K6	4822 111 91534	5066
		3161	5K6	4822 111 91534	5066
		3165	100k	4822 111 91518	5066
		3166	100k	4822 111 91518	5066
		3167	100k	4822 111 91518	5066
		3168	100k	4822 111 91518	5066
		3169	100k	4822 111 91518	5066
		3170	75E	4822 111 91506	5066
		3171	270E	4822 111 91499	5066
		3172	270E	4822 111 91499	5066
		3173	100k	4822 111 91518	5066
		3174	100k	4822 111 91518	5066
		3175	10k	4822 111 91517	5066
		3176	10k	4822 111 91517	5066
		3177	680E	4822 111 91504	5066
		3178	4E7	4822 116 80464	5066
		3179	4E7	4822 116 80464	5066
		3180	4E7	4822 116 80464	5066
		3204	22k	4822 111 91523	5066
		4050	0E	4822 111 91536	5066
		4051	0E	4822 111 91536	5066
		4052	0E	4822 111 91536	5066
		BC847B Chip Transistor		4822 130 60511	
		TEA6100N2		4822 209 72251	
		TEA6057		4822 209 72248	
		TEA6200		4822 209 72247	
		X24021		4822 209 72802	
		TA7784P		4822 209 71871	
		TMP47C421AF		4822 209 72254	
		TDA1518Q		4822 209 72249	
		L4918		4822 209 72253	
		L4904		4822 209 72252	

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